

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,014	01/11/2002	Kuei-Hung Lee	67,200-620	7480

7590 07/03/2003

TUNG & ASSOCIATES  
Suite 120  
838 W. Long Lake Road  
Bloomfield Hills, MI 48302

EXAMINER

BRAHAN, THOMAS J

ART UNIT	PAPER NUMBER
----------	--------------

3652

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/044,014

Applicant(s)  
LEE

Examiner  
Thomas J. Brahan

Art Unit  
3652



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jan 11, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1 and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Choi et al (see figures 4A and 8) and as anticipated by Dimock et al (see figure 9).

4. Claims 1, 4, and 11 are rejected under 35 U.S.C. § 102(e) as being anticipated by De et al. De et al shows an end effector having a top surface with a flat portion (112) and a tapered portion (130).

5. Claims 1, 4, and 8-10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Van Rooy. Van Rooy shows an end effector having a top surface with a flat portion (20) and a tapered portion (24).

6. Claims 1, 5, 8, 13, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kim et al. Kim et al shows an end effector having fingers with a top surface with a flat portion and a tapered portion, see figure 7.

7. Claims 1, 5, 8, 13, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nam et al. Nam et al shows an robot end effector having a top surface with a flat portion and a tapered portions.

8. Claims 1, 5, 8, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Li et al. Li et al shows an robot end effector having a top surface with a flat portion and a tapered portions.

9. Claims 1, 4, 8, 11 and 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by Duis et al. Duis et al shows an robot end effector having a top surface with a flat portion and a tapered portion (12).

10. Claims 1, 4, 8, and 11-13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shamlou et al. Shamlou et al shows an end effector having a top surface with a flat portion (116) and a tapered portion (114).

11. Claims 2, 3, 6, 7, and 14-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. Kim et al shows the basic claimed end effector with fingers with tapered ends. It varies from the claims by not giving the dimensions of the finger portions or their relative dimensions with respect to the cassettes of its processing system. However these dimensions are considered as design expedients (depending upon the wafer and cassette sizes) which would have been within the level of routine skill in the art at the time the invention was made.

12. Claims 2, 3, 6, 7, 14-16 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dimock et al. Dimock et al shows the basic claimed end effector with a tapered end (114). The dimensions of the blade and the cassette arrangement, and the angle of the tapered portion, appear to approximate those claimed, as to have any differences considered as design expedients which would have been within the level of routine skill in the art at the time the invention was made.


13. Claims 2 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duis et al. Duis et al shows the basic claimed end effector with a tapered end (12). Its angle appears to approximate the claimed range of angles, as to have any differences considered as a design expedient, which would have been within the level of routine skill in the art at the time the invention was made.

14. Claims 3, 7, 14 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shamlou et al. Shamlou et al shows the basic claimed end effector with a tapered end (114). The dimensions of the blade and the cassette arrangement appear to approximate those claimed, as to have any differences considered as design expedients which would have been within the level of routine skill in the art at the time the invention was made.

15. Claims 2, 6, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Li et al. Li et al shows the basic claimed end effector with tapered ends (on 37a and 37b). Their angles appear to approximate the claimed range of angles, as to have any difference considered as a design expedient which would have been within the level of routine skill in the art at the time the invention was made.

16. Schwartz et al, Malagrino et al, Nakamura et al, and Goodwin et al are cited as showing additional wafer blades with fingers having tapered ends.

17. An inquiry concerning this action should be directed to Examiner Thomas J. Brahan at telephone number (703) 308-2568 on Mondays through Fridays from 9:30-7:00 EST. The examiner's supervisor, Ms. Eileen Lillis, can be reached at (703) 308-3248. The fax number for Technology Center 3600 is (703) 305-7687.

 6/19/2003  
THOMAS J. BRAHAN  
PRIMARY EXAMINER